

THE INDIANAPOLIS RADIO CLUB - FOUNDED IN 1914
(The oldest continuously meeting Amateur Radio Club in the United States)

THE AMACHEWER FOR March, 2002

NEXT MEETING IS March, 8, 2001 at the Indianapolis Training Center.

Carl Luetzelschwab, K9LA will present a discussion on radio propagation, specifically Cycle 23. Carl will review different types of propagation theory and various methods of predictions. He will also review the latest 6 Meter openings across the world.

Carl lives in FT Wayne, Indiana and has been amateur for over 40 years. He currently writes the propagation articles for World Radio and NCJ (The National Contest Journal). He is a RF design engineer for Raytheon (formerly Magnavox).

2002 IRC Officers:

President:	Bill Goodall-K9DBY	255-4749
Vice President:	Tom Chance- K9XV	783-1093
Secretary:	Maria Chambers-KB9RLG	357-6308
Treasurer:	Wade Kingery-W9JGZ	255-5191
Chief Operator:	John Lee- W9GRE	251-3793
News Editor:	Dave Kalmikoff-W9DEK	255-9285

Minutes from our February, 2002 meeting:

Meeting was called to order at 7:30pm by Bill Goodall K9DBY. Introductions were given by everyone. Treasure gave his monthly report. Bill suggested that everyone bring in a new member in to boost membership, and it was also suggested that someone make a flyer about the club.

Tom Gwaltney N9PDC has 3 more states to work to have all fifty states. Paul Rice CMW his field day pins for sale for \$5.00 and tee shirts for sale which run \$13.00, these also are for field day. Dave would like anyone whom has any articles or interesting info about amateur world email him with the info and he will get it in the newsletter. Tom Chance has some old copies of the first letter from the beginning of the Indianapolis Radio Club, Tome passed them around. Tom also mentioned that on March 8th meeting Carl K9LA from Ft. Wayne will be at our meeting and talk about Propagation and solar cycle 23. Tom introduced

Dave Gingrich K9DC did a presentation on IRLP and the DREGs group. IRLP which stands for Internet Radio Linking Projects. Dave talked about how it came about and who developed it.

He showed a slide show on the hardware and the software you need to do IRLP. He showed us the basic simple setup, there is two types 1) node to node 2) I s the reflector mode which is multiple streams. There is 350 nodes, 9 reflectors, and 5 countries online. Indiana has five nodes He told us the proper way to connect and talk and disconnect to the nodes. Dave connected to several people and had them go to the reflector where they all talked to each other and gave a good demo on this. Then England came in and talked to us. This was a very good demo and several people had several questions for Dave.

Meeting was closed at 8:50pm. Total of 19 members attended.

Megahertz & Meters, by W9YZ.....

Recently a friend decided to get into ham radio when he retired. Among other things he asked me, "Why is the 17 meter band in the 18 Mhz range?". I explained it was two different ways to identify the same thing. $300/\text{meters} = \text{Megahertz}$, and $300/\text{Mhz} = \text{meters}$. The 17 meter band is 18.068 to 18.168 Mhz. In meters it is 16.512 to 16.604 meters. The only reason I can see for calling it 17 meters is that both of the meter values are closer to 17 than 16 so in round numbers it is called the 17 meter band. In the earlier days of radio meter bands were the method used because certain antenna lengths worked better than others to improve signal strength. Then frequencies came into use to describe locations in the spectrum. The two systems stayed in use.

Usually we speak of bands in meters and exact spots of megahertz or kilohertz. The 80/75 meter band for instance is $300/3.5 \text{ Mhz} = 85.714$ for the low end. $300/3.75 \text{ Mhz} = 80$ meters for the middle of the band, and $300 / 4 = 75$ meters. The whole spread was called 80 meters. When voice radio started it was assigned near 4 Mhz and was called 75 meters. Many of the bands do not contain the meter equivalents. For instance the 20 meter band is 14.000 to 14.350 Mhz. $300 / 20 \text{ meters} = 15 \text{ Mhz}$, which is not within the present amateur band. In the middle 1920s the 20 meter band was 14.000 to 16.000 Mhz. 20 Meters was the midpoint. The 40

meter

band was 7 to 8 Mhz. The mid point was 7.5 Mhz. $300 / 7.5 = 40$ meters. The present day 7 to

7.3 range does not include 7.5 Mhz, but the traditional number stayed with us, "The 40 meter

band." Another example is the Indiana 75 meter net, which meets on 3.910 Mhz. It is not on

75 meters at all. It is on 76.726 meters using the above formulas. So by traditional and custom

bands with high and low limits are identified by a meter number which might or might not actually

be included in the band. Specific frequencies for nets, meeting friends, and schedules are stated

in Mhz or Khz..... The only place in the radio spectrum where Meters and Megahertz are the

same is the square root of 300: $17.320508 \text{ Mhz} = 17.320508 \text{ Meters}.....$

Some of the above is from a book called "200 Meters and down" by Clinton DeSoto, a member of the ARRL staff who published the book in 1936. It is available from the ARRL for those

who want to dig into the earlier history of ham radio regarding frequencies, regulations and

accomplishments which were astounding at the time but routine today.

Sent by Ron Williams, W9YZ (thanks, Ron!)

ARRL News

- * +ARRL takes wait-and-see approach to UWB Order
- * +Lone missing application holding up vanity
- * +ISS crew commander chats it up with Russian tech school
- * +FCC wraps up Georgia ARRL VEC exam session probe
- * +ARRL Public Service Honor Roll criteria revised
- * +FCC proposes WRC-related rules changes

* Solar Update

* IN BRIEF:

This weekend on the radio

ARRL Emergency Communications Course registration

+Ducie Island DXpedition launch in final countdown

Congo, North Cook and South Cook operations approved for DXCC credit

Rare DXpeditions enjoy QSO

More DX records set on 241 GHz

Wisconsin SM urges hams to push for governor's signature

QSO/Media ham radio public relations newsletter available on the Web

Vote on QST Cover Plaque Award

=>ARRL TAKING WAIT-AND-SEE ATTITUDE ON FCC ULTRA-WIDEBAND ORDER

The ARRL is taking a wait-and-see approach regarding the FCC's recent First

Report & Order on the deployment of ultra-wideband (UWB) devices. The largely untested technology has been touted by proponents as a means to provide high-speed wireless data connections as well as for such applications as object-penetrating imaging--all while using spectrum occupied by existing services and without creating interference. The FCC Order in ET Docket 98-153 was approved February 14 at an open meeting but has not yet been released. It promotes a vision of potential UWB public safety applications in addition to broadband Internet access.

"The FCC claims that it has exercised caution, but only time will tell whether they have been cautious enough to avoid harmful interference to existing services," said ARRL Executive Vice President David Sumner, K1ZZ. "The statement that 'The FCC will act vigorously to enforce the rules and act quickly on any reports of interference' is not reassuring to anyone who lives in the real world."

The FCC's UWB Order will be among the items up for discussion at a meeting of the ARRL Executive Committee March 2 in Arlington, Virginia. The EC will study the Order's implications and consider whether it warrants further action on the part of the League.

Wireless Internet connectivity systems are expected to be among the first commercial UWB applications. Proposed UWB devices include a range of imaging systems such as ground-penetrating radar, through-wall imaging systems, medical systems, and surveillance systems.

The FCC has described the standards its Order outlines as "a cautious first step" with UWB. For now, at least, communication uses of ultra-wideband will be restricted to frequencies above 3.1 GHz. Amateur Radio has secondary allocations above 3.1 GHz at 3.3-3.5 GHz and 5.65-5.925 GHz, which are allocated to government radiolocation.

The ARRL has been part of an industry coalition that called on the FCC "as a matter of fairness" to issue a Further Notice of Proposed Rule Making that included proposed UWB rules and specifies emission limits before it took action to authorize UWB equipment under Part 15.

"We are disappointed that the FCC did not pay closer heed to the coalition's recommendation to keep UWB above 6 GHz," said ARRL's Technical Relations Manager Paul Rinaldo, W4RI. Although the ARRL has agreed in its formal comments that UWB can have useful and beneficial applications, it wanted the FCC to first establish specific rules, definitions and classes of UWB devices as well as appropriate interference avoidance regulations. "Until we know the specific technical characteristics and geographic distribution of UWB devices," Rinaldo said, "it is difficult to estimate the interference potential to amateur receiving systems."

Concerns have been expressed by the US Department of Defense, the airline industry and cellular telephone companies about the potential of UWB devices to interfere with the Global Positioning System (GPS). The Defense

Department said the FCC's decision to keep UWB communication applications above 3.1 GHz will protect GPS and other critical military systems from interference, but the DoD plans to monitor future UWB developments.

The FCC said it intends within the next six to twelve months to review its UWB standards and issue a Further Notice of Proposed Rule Making to "explore more flexible standards and address the operation of additional types of UWB operations and technology.

Since most UWB applications have not yet been made fully public, the League plans to evaluate what effect new UWB devices could have on Amateur Radio as they are rolled out to market. Rinaldo says the coalition partners will be gathering evidence and field testing UWB production models as they become available.

ARRL's comments in the UWB proceeding are available on the ARRL Web site <<http://www.arrl.org/announce/regulatory/et98-153/index.html>>.--ARRL Legislative and Public Affairs Manager Steve Mansfield, N1MZA, provided information for this report

==>LONE MISSING APPLICATION HOLDING UP VANITY SYSTEM

And then there was one. The FCC indicated this week that a lone missing paper vanity call sign application filed last October is holding up the resumption of routine vanity processing. On February 27, the FCC processed 33 vanity applications received last October 23 and 24. The following day, it ran another 41 applications received October 25 and 26. Processing remains stalled beyond that receipt date, however. FCC efforts, assisted by the ARRL, to contact the elusive applicant to have the individual resubmit a vanity application have proven more difficult than ever anticipated.

The FCC appears determined to hold off further processing until the remaining applicant is given an opportunity to resubmit an application and, thus, retain a place in the processing queue. Prior to this week, no amateur vanity call signs had been granted since February 1, when applications received at the FCC October 22, 23 and 24 were processed. The FCC later rescinded vanity grants for October 23 and 24, however, after it realized that it needed further information for an October 23 application. Until late January, no vanity call signs had been issued since October 30.

The ARRL estimates that some 2050 vanity applications now are in the FCC's processing pipeline--the majority of them filed electronically. The FCC's policy is to give equal processing weight to paper and electronic applications. Some two weeks' worth of October paper vanity applications apparently were mislaid after mail was sent off last fall for anthrax decontamination.

FCC Wireless Telecommunications Bureau personnel at the FCC's Gettysburg, Pennsylvania, office used information gleaned from payment receipts to contact the known paper filers via e-mail or telephone to have them resubmit

copies of their vanity applications. That effort--again with ARRL help--led to this week's vanity processing.

==>ISS CREW COMMANDER TALKS WITH RUSSIAN STUDENTS VIA HAM RADIO

International Space Station Commander Yury Onufrienko, RK3DUO, this week chatted via Amateur Radio with students in Russia. The Amateur Radio on the International Space Station (ARISS) contact with Kursk Technical University took place at 0922 UTC February 28. It marked only the second ARISS QSO with a Russian school, and the first for Onufrienko. Using the RS0ISS call sign, Onufrienko spent the 10-minute pass answering questions in Russian from five students at RW3WWW, the club station at the school, located some 250 miles south of Moscow.

"The students were very excited and happy to talk to Yury," said club director Valery Pikkiev, RW3WW. Assisted by his son Dimitry, RA3WPS, Pikkiev battled reception problems that may have resulted from blocking of the space station's amateur antenna. The same problem was reported by an Italian listener, Andrea Bonaiuto, IT9GSV.

Despite the difficulties, the contact was considered a success by the students and a crowd of about 25 observers and reporters. The Kursk event was the 47th ARISS school contact since the first crew came aboard the ISS in November 2000.

Last July 4, US astronaut Susan Helms, KC7NHZ, took to the air as RS0ISS to speak with students at the Petersburg Junior Technical Center's club station, RZ1AWO. That QSO marked the first ARISS European school contact.

The all-ham Expedition 4 crew of Onufrienko, Carl Walz, KC5TIE, and Dan Bursch, KD5PNU, has been able to devote only limited time to ARISS school contacts during its duty tour. Three spacewalks during the crew's tour--two of them including the installation of new Amateur Radio antennas on the ISS Service Module--have eaten into time that might otherwise have been available for such activities. Each one-day spacewalk has involved the entire crew for more than five days. Plans had called for an average of one scheduled school contact per week, but crew members' free time continues to be at a premium--with a Progress rocket docking set for late March, and space shuttle and Soyuz taxi missions in April. The crew is due to return to Earth in mid-May. The ARISS operations team still hopes to arrange contacts during 2002 for each of the more than 40 schools now on the waiting list.

In other ARISS news, the Expedition 4 crew installed a new packet TNC last weekend. The packet system now is operational for the first time with a call sign--RS0ISS. The ARISS packet uplink is 145.99 MHz; the downlink is 145.80 MHz. Amateurs are asked not to leave messages for the crew, as no computer is attached to the system, and the crew has little time to respond to messages.

ARISS is an international project of AMSAT, ARRL and NASA.--Gene Chapline,

K5YFL, provided information on the Kursk contact for this report

==>FCC COMPLETES GEORGIA ARRL VEC EXAM SESSION AUDIT

The FCC has wrapped up an investigation into apparent irregularities at five ARRL VEC-sponsored Amateur Radio examination sessions in Georgia during 2000 and 2001. As a result of the probe, FCC Special Counsel Riley Hollingsworth said that several examinees would be called back for Element 1 (Morse code) retesting. In addition, the ARRL VEC has discontinued volunteer examiner accreditation for all but two of the VEs involved. According to standard procedure, all VEs who might have been involved were suspended after the FCC investigation began last year.

"We have reviewed the examination documents and all relevant information, including that provided by the volunteer examiners and applicants," Hollingsworth said in a February 12 letter to ARRL VEC Manager Bart Jahnke, W9JJ. Jahnke called the apparent irregularities to the FCC's attention last June. The issues involved both exam sessions and instructional classes.

Initially focusing on the May 19, 2001, examination session in Statesboro, the FCC audit was expanded to cover the activities of the same group of VEs at Georgia test sessions in Claxton on February 19 and April 15, 2000, and in Statesboro on May 27, 2000, and February 17, 2001.

In a letter last summer to ARRL VEC, Hollingsworth said test session documents and other information indicated "alarming discrepancies in testing procedures." He said information before the FCC suggested that volunteer examiners at the May 19 Statesboro session used identical exam question sets and Morse text at several recent exam sessions in apparent contradiction of Amateur Service rules that prohibit administration of a "compromised examination." Hollingsworth also said it appeared that test candidates "had been shown or had access to" the Morse code answer key and that some VEs had taught classes using the same test editions later given at actual examination sessions.

Hollingsworth said that as a result of the FCC probe, eight examinees who obtained licenses as a result of the tests would be called in for Element 1 (Morse code) re-examination, if they have not already re-tested.

The ARRL VEC has withdrawn accreditation for volunteer examiners responsible for the testing sessions at which alleged irregularities occurred as well as those of VEs present at a February 10, 2001, instructional class. The examiners are Ellie Waters, W4CJB; Cheryl L. Waters, W4CLW; Joanne D. Sharpe, KF4WFN; John W. Sharpe, WA4BE; Joseph A. Horne, N4ZAJ; George B. Grant, KF4WPU; Robert T. Jernigan, W4RTJ; Kathy L. Lanier, KD4MVY; Charles M. Aulick, KF4MLT; and Lawrence A. Lewis, K4RRR.

The ARRL VEC reinstated two VEs suspended during the audit--Charles F. Roberts, AI4A, and Marshall R. Thigpen Jr, W4IS.

Meanwhile, the FCC has yet to complete an audit of an ARRL VEC-sponsored examination session in Trumbull, Connecticut, last May. Eleven VEs remain suspended in that probe. The FCC is looking into whether one applicant had access to a Morse code answer key or submitted an answer sheet completed prior to the examination.

==>PUBLIC SERVICE HONOR ROLL CHANGES EFFECTIVE MAY 1

A new season for the Public Service Honor Roll (PSHR) begins May 1, when revised qualification criteria go into effect. Published as part of the QST Public Service column, the PSHR recognizes amateurs who demonstrate exemplary public service performance each month. In addition to streamlining the criteria, updated PSHR categories will combine some now-separate areas of qualifying performance into a single category. The new regime also will readjust point credits and, in some cases, point limits for individual categories.

Among the most significant changes is a revised schedule to earn points for participating in planned or unplanned public service activities. Current criteria provide 10 points for each event, with no limit, for "participating in a communications network for a public service event." Under the new criteria, stations can earn unlimited PSHR points at the rate of five per hour of participation in scheduled, short-term public service events. Participants now also may credit certain time spent planning and coordinating activities toward their total. Stations can earn unlimited points at the same rate for participating on the scene during an unplanned emergency response or as part of an unplanned incident request for Amateur Radio participation by a public or served agency.

The ARRL Board of Directors adopted the program changes--proposed by the ARRL Volunteer Resources Committee--at its January meeting. The revisions, the first in 11 years, resulted from comments expressed by the Amateur Radio public service community during a 2001 survey.

"An ongoing challenge with PSHR is how to effectively balance the many different facets of Amateur Radio public service communication," said ARRL Field Organization/Public Service Team Manager Steve Ewald, WV1X. Ewald conceded that the assignment of point values was "a delicate task." He said the criteria attempt to present a balanced program without being too complicated. The new criteria will recognize performance in six categories--down from eight. The minimum point total will remain at 70. Under the revised program:

- * Participating in a public service net will earn 1 point per net session, up to a maximum of 40 points.

- * Handling formal messages will earn 1 point per message handled, up to a maximum of 40 points.

- * Serving in an ARRL-sponsored volunteer position is worth 10 points for

each position, up to a maximum of 30.

- * Participating in scheduled, short-term public service events, including off-the-air meetings and coordination efforts with related emergency groups and served agencies, earns 5 points per hour, with no points limit.

- * Participating on the scene in an unplanned emergency response or on or off the scene as part of an unplanned incident request for Amateur Radio participation by public or served agencies earns 5 points per hour, with no points limit.

- * Providing and maintaining either an automated digital system, such as a packet bulletin board, to handle ARRL radiogram-formatted messages, or a Web page e-mail listserver oriented toward Amateur Radio public service is worth 10 points per item.

Ewald said the August issue of QST will be the first to report PSHR membership according to the revised criteria. For details, visit the PSHR Web page <<http://www.arrl.org/FandES/field/pshr/>>.

==>FCC PROPOSES WRC-RELATED RULES CHANGES

The FCC has proposed changes to the Part 97 Amateur Service rules as a result of actions taken at recent World Radiocommunication Conferences. In a Notice of Proposed Rule Making in ET Docket 02-16, released February 7, the FCC proposed to delete Section 97.401(b) from the rules along with references to international footnote S.5120.

Section 97.401(b) states that when normal communication systems are overloaded, damaged or disrupted because of a natural disaster in an area not regulated by the FCC, a station providing "essential communication" and "facilitating relief actions" may only do so in accord with ITU Resolution 640, which, under S.5120, specified use of the 80, 75, 40, 30, 20 17, 15, 12 and 2-meter bands. Resolution 640 was eliminated at WRC-97, and S.5120 at WRC-2000. The FCC said US amateurs can continue to communicate with foreign stations in disaster areas under Section 97.111(a)(1) and Section 97.101(c).

In a footnote, the FCC pointed out that WRC-2000 deleted international footnote S.5124, which had allocated the band 3950 to 4000 kHz to the broadcasting service for domestic use in Canada. "Once the Canadian Government has implemented this allocation change, the band 3500-4000 kHz will be allocated exclusively to the amateur service in Canada," the FCC said.

==>SOLAR UPDATE

Propagation prophet Tad Cook, K7VVV, Seattle, Washington, reports: This was another quiet week for geomagnetic conditions. Average planetary A index declined slightly from 6 to 5.4, and all daily geo-indices were in the

single digits. This was great for the CQ WW 160 Meter Contest last weekend.

Solar flux and sunspot numbers rose. Combined with low K and A indices, this indicates good HF radio conditions. Average daily sunspot numbers rose more than 45 points from last week, and average daily solar flux was up nearly five points.

Solar flux has been hanging around 200, and this is expected to continue. Current projections show flux values right around 200 over the next several weeks, but of course new solar activity could emerge to change this.

On Thursday a minor geomagnetic storm began around 1700 UTC. Planetary A indices reached 17, a level not reached in the quiet conditions of the past few weeks. Conditions will probably quiet down in time for the phone weekend of the ARRL International DX Contest (SSB), which begins Saturday (UTC).

Sunspot numbers for February 21 through 27 were 148, 161, 176, 191, 237, 223 and 192, with a mean of 189.7. The 10.7-cm flux was 201.1, 191.9, 188.2, 192.8, 210.6, 207.5 and 198.6, with a mean of 198.7. Estimated planetary A indices were 6, 5, 4, 4, 7, 8 and 4 with a mean of 5.4.

Miscellaneous:

Please feel free to e-mail (w9dek@arrl.net) or call me (255-9285) with any pertinent news for next month's Amateuer.

73,

David Kalmikoff, W9DEK
News Editor for the Indianapolis Radio Club